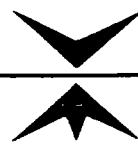


D4

Vulcan Materials Company

CHEMICALS DIVISION / P. O. BOX 12283 • WICHITA, KANSAS 67277 • TELEPHONE 316 524-4211 • TELEX NO. 417 432 • TWX 910 741-8918

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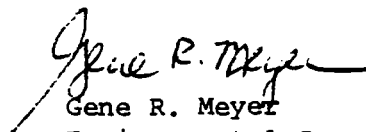
~~from 3007 response -
only document not alleged
to be CBI
- all first part of
report - confidentiality
claimed!~~

J. P. Goetz
Bureau of Sanitary Waste
Hazardous Waste Division
KDHE - Forbes Field
Topeka, Kansas 66620

Dear John:

Here is the report containing the assessment of the groundwater quality that is required by the Resource Conservation and Recovery Act. If you have any questions, do not hesitate to call.

Sincerely,


Gene R. Meyer
Environmental Coordinator

di

Enclosures

Declassified in response
to Co's Sept 16, 1983
letter
To Morris Kay

RECEIVED

SEP 21 1983

AIR AND WASTE COMPLIANCE
BRANCH

30299046



Superfund

GROUNDWATER ASSESSMENT OF VULCAN MATERIALS
AS REQUIRED BY RCRA

The Resource Conservation and Recovery Act (RCRA) specifies that within 15 days after November 19, 1981, TSD facilities that have decided to use an alternate groundwater monitoring system must submit an assessment of the groundwater quality to the Regional Administrator.

To comply with these requirements, Vulcan Materials Company is submitting this report.

Information and material described in this document are confidential in nature. No part of this document may be duplicated or made public without the consent of both the Kansas Department of Health and Environment and Vulcan Materials Company, Wichita, Kansas.

Previous reports from Vulcan to the KDHE have described the groundwater management plan that is in operation at Vulcan. The monitor wells associated with the RCRA required groundwater management plan have been analyzed periodically over the past several years. Results of these analyses are shown in Tables I-IV.

A statistical analysis of these data has been performed to determine if significant concentration changes have taken place. The column headed by TREND: 1) is left blank if there has been no statistical change, 2) contains INC if there has been a significant increase in this component's concentration over the past 36 months, or 3) contains DEC if there has been a significant decrease in this component's concentration over the past 36 months.

This statistical treatment, a student's "T" test, was applied to determine the significance of the measured values changing over the 36 month sampling program. A 90% confidence level was used.

Chlorosol - Include methylene chloride, chloroform, carbon tetrachloride, perchloroethylene, and 1,1,1-trichloroethylene.

Hexachloros - Include hexachloroethane, hexachlorobenzene, hexachlorobutadiene, α -hexachlorohexane, and γ -hexachlorocyclohexane.

Chlorophols - Include partially or fully chlorinated phenols (para, 2,4D 2,6D; 2,45T; 2,46T, 2,3,46 Tetra; penta).

The designations of the monitor wells are: MW 6S-BS is the upgradient monitor well; MW 13, MW 2S-BS and 12S-BS are the downgradient monitor wells. Figure 1 shows the location of these wells relative to the surface impoundments. The extent of the migration of the inorganic and organic compounds is limited to the area near the plant. Examination of the data shows trends increasing only in one location for one group of compounds (MW 13 - chlorosolvent group). This may be a result of the heavy pump from nearby interceptor wells. Monitor Well 12S-BS, which is downgradient from MW 13, has shown no such increase in chlorosolvents.

TABLE I

>>VULCAN MONITOR WELL REPORT<<

+-----+
 + WELL: 6SBS SAND TYPE: S3 +
 +-----+

	10/77	7/79	9/79	1/80	5/80	7/80
CAC03,PPM	120.	310.	160.	140.	140.	140.
CHLORIDES,PPM	24.	109.	22.	22.	25.	25.
TOC,PPM	1.	16.	6.	0.	9.	2.

	9/80	3/81	9/81	TREND
CAC03,PPM	210.	170.	180.	
CHLORIDES,PPM	20.	19.	20.	
TOC,PPM	7.	1.	11.	

	10/77	7/79	9/80	3/81	TREND
CHLOROSOLS,PPM	0.000	1.280	.003	.046	
HEXACHLORS,PPB	0.0	.3	0.0	0.0	
CHLOROPHOL,PPM	0.000	0.000	.002	0.000	

TABLE II

+-----+
 + WELL: 2SBS SAND TYPE: S3 +
 +-----+

	10/77	7/79	9/79	11/79	1/80	5/80
CACO3,PPM	2160.	2540.	2470.	1900.	2650.	2460.
CHLORIDES,PPM	3010.	3650.	2161.	3354.	3106.	3401.
TOC,PPM	4.	7.	14.	6.	0.	17.

	7/80	9/80	3/81	5/81	9/81	TREND
CACO3,PPM	2375.	3100.	2000.	2142.	2030.	
CHLORIDES,PPM	3276.	3308.	3036.	2976.	2757.	
TOC,PPM	0.	14.	8.	10.	0.	

	10/77	7/79	9/80	3/81	5/81	TREND
CHLOROSOLS,PPM	.170	.290	.576	.887	1.040	
HEXACHLORS,PPB	0.0	2.9	1.2	1.7	5.4	
CHLOROPHOL,PPM	.093	.274	.164	.168	.036	

>>VULCAN MONITOR WELL REPORT<<

+-----+
 + WELL: 12SBS SAND TYPE: S3 +
 +-----+

	10/77	8/78	7/79	9/79	11/79	1/80
CAC03,PPM	4800.	4710.	4300.	4110.	2700.	4250.
CHLORIDES,PPM	10000	10700	8870.	9371.	9100.	9216.
TOC,PPM	76.	117.	72.	70.	58.	60.

	5/80	7/80	9/80	3/81	5/81	5/81
CAC03,PPM	4200.	3595.	3650.	3980.	4500.	4500.
CHLORIDES,PPM	9542.	9332.	9006.	8440.	8765.	9460.
TOC,PPM	54.	41.	46.	34.	32.	37.

	9/81	TREND
CAC03,PPM	3550.	
CHLORIDES,PPM	7419.	
TOC,PPM	28.	

	10/77	8/78	7/79	9/80	3/81	5/81	TREND
CHLOROSOLS,PPM	13.650	7.000	130.850	36.850	24.150	20.200	
HEXACHLORS,PPB	492.1	666.0	254.0	172.0	45.8	167.0	
CHLOROPHOL,PPM	7.5	12.2	.2	.3	.5	5.9	

	9/81	TREND
CHLOROSOLS,PPM	10.684	
HEXACHLORS,PPB	146.2	
CHLOROPHOL,PPM	5.460	

TABLE IV

 WELL: 13 MW SAND TYPE: S3

	<u>10/77</u>	<u>7/79</u>	<u>5/81</u>	<u>9/81</u>	<u>TREND</u>
CaCO ₃ , PPM	10800	10500	7350	7200	
CHLORIDES, PPM	23800	27690	21420	20912	
TOC, PPM	135	162	137	34	
	<u>10/77</u>	<u>7/79</u>	<u>5/81</u>	<u>TREND</u>	
CHLOROSOLS, PPM	.713	*366.03	627.15	INC	
HEXACHLORS, PPB	4.1	49.8	3.01		
CHLOROPHOLS, PPM	14.610	3,700	11.746		

*This value replaces a previously submitted value of 146,950. The previous value was in error.

FIGURE 1: Relative Locations of Monitor Wells and Surface Impoundments at Vulcan MATERIALS, WICHITA, KANSAS
SECTION 27, TOWNSHIP 28 S, R1W

